

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1 and 3-9 were pending in this application. Claim 10 has been newly added by way of this reply. Accordingly, claims 1, 3-9, and 10 are currently pending in this application. Claims 1 and 6 are independent. The remaining claims depend, directly or indirectly, from claim 1 or 6.

Claim Amendments

Independent claim 1 has been amended to specifically recite “a plurality of gas discharge lines connected to an outlet of the plurality of columns, each of the plurality of gas discharge lines having a valve” and “wherein each of said specific gases that is separated chromatographically from said treatment gas is discharged via a corresponding one of the plurality of gas discharge lines.” Independent claim 6 has been amended to recite similar limitations. No new matter has been added by way of these amendments, as support for these amendments may be found, for example, in Figures 1, 2, and 5 of the publication of the Specification. Claims 5 and 9 have been amended to delete the term, “or an equivalent product,” for clarification. No new matter has been added. Further, claim 10 has been newly added by way of this reply. No new matter has been added, as support for new claim 10 may be found, for

example, in original claim 4 and paragraphs [0040] and [0050] of the publication of the Specification.

Claim Rejection(s) under 35 U.S.C. § 112

Claims 5 and 6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner alleges that the term, “an equivalent product,” is relative term and renders the claims indefinite. As explained above, claims 5 and 9 have been amended to delete the term, “or an equivalent product,” for clarification. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C. § 102

Claims 1 and 3-9 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by US Patent No. 6,425,946 to Funke *et al.* (hereinafter “Funke”). Independent claims 1 and 6 have been amended as discussed above. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed for at least the reasons set forth below.

MPEP § 2131 makes it clear that a claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently in a single prior art reference. Applicant respectfully asserts that Funke does not show or suggest all of the limitations of the amended claims.

One or more embodiments of the claimed invention are directed to a unit for separating gases. With reference to Figures 1, 2, and 5, for example, a plurality of gas discharge lines are connected to an outlet of columns 50-1 and 50-2. Each of the plurality gas discharge lines has a valve 40, 42, 44, and 46. Then, each of a plurality of gases separated by a chromatographic separation device 20 is discharged via the plurality of gas charge lines (*see, e.g.*, publication of the Specification, Figures 1, 2, and 5).

Accordingly, amended independent claim 1 requires, in part, “a plurality of gas discharge lines connected to an outlet of the plurality of columns, each of the plurality of gas discharge lines having a valve” and “wherein each of said specific gases that is separated chromatographically from said treatment gas is discharged via a corresponding one of the plurality of gas discharge lines.”

In contrast, Funke fails to show or suggest at least the above limitations. In fact, Funke only shows a *single* gas discharge line *connected to an outlet of a canister and discharging a gas therethrough*. Specifically, Funke discloses that a single gas discharge line is connected to a canister 64, 164, 264, 364 and that a gas from the canister 64, 164, 264, 364, is discharged therethrough by a gas outlet valve 76 (*see* Funke, Figure 1). Furthermore, Funke is directed to an *absorber* that absorbs contaminants (*see* Funke, column 1, lines 8-26). Thus, it would be clear to a skilled artisan that Funke does not have a plurality of gas discharge lines.

Therefore, Funke fails to show or suggest at least “a *plurality of gas discharge lines connected to an outlet of the plurality of columns*, each of the plurality of gas discharge lines having a valve” and “wherein each of said specific gases that is separated chromatographically

from said treatment gas is *discharged via a corresponding one of the plurality of gas discharge lines,*” as required by amended independent claim 1.

In view of above, Funke fails to show or suggest the invention as recited in amended independent claim 1. Thus, amended independent claim 1 is patentable over Funke. Further, in view of the similarity between the limitations of amended independent claim 6 and the limitations discussed above with respect to amended independent claim 1, Applicant respectfully submits that the foregoing arguments as to the patentability of amended independent claim 1 also demonstrate the patentability of amended independent claim 6. Thus, amended independent claim 6 is patentable over Funke. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

New Claim

As explained above, claim 10 has been newly added by way of this reply. New claim 10 depends from amended independent claim 1. Therefore, Applicant respectfully asserts that new claim 10 is patentable over Funke at least by virtue of its dependency.

However, additionally, Applicant respectfully asserts that new claim 10 is patentable over Funke for the reasons set forth below.

One or more embodiments of the claimed invention are directed to a unit for separating gases including CF_4 and C_2F_6 . In one or more embodiments, the unit has a column having a zeolite therein. The pore size of the zeolite is larger than the maximum molecular diameter of

C₂F₆. As a result, the unit effectively separates CF₄ and C₂F₆ using the zeolite (*see, e.g.*, publication of the Specification, paragraphs [0047]-[0050]).

Accordingly, new claim 10 requires, in part, “wherein said specific gases comprise CF₄ and C₂F₆,” “wherein said fillers comprise zeolite,” and “wherein a pore size of the zeolite is larger than a maximum molecular diameter of C₂F₆.”

In contrast, Funke fails to show or suggest at least “wherein a pore size of the zeolite is larger than a maximum molecular diameter of C₂F₆,” as required by new claim 10. In fact, Funke is completely silent with respect to a pore size of the zeolite. Funke only discloses using a zeolite to remove moisture.

Specifically, Funke only discloses that secondary purifiers to remove moisture include oxide and mixed oxide, alumina, silica, alminosilicate zeolites, *etc.* (*see* Funke, column 3, lines 38-43). Thus, it would be clear to a skilled artisan that Funke necessary cannot show or suggest a relationship between the pore size of the zeolite and a molecular diameter of C₂F₆. Therefore, Funke fails to show or suggest at least “wherein *a pore size of the zeolite is larger than a maximum molecular diameter of C₂F₆*,” as required by new claim 10.

Accordingly, Applicant respectfully submits that new claim 10 is patentable over Funke.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591, Reference No. 08228/087001.

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Respectfully submitted,

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